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SABLE ISLANDS

PROVINCIAL NATURE RESERVE

INTERIM MANAGEMENT STATEMENT

Ministry of Natural Resources
RECEIVED
JUN 20 1995
DISTRICT OFFICE
FORT FRANCES

Ontario
Ministry of
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Resources

Ministry of
Natural
Resources

Ontario

May, 1985

REGIONAL DIRECTOR'S APPROVAL STATEMENT

This Interim Management Statement will provide interim direction for the management of Sable Islands Provincial Nature Reserve Park until a comprehensive Park Management Plan is prepared.

This statement will provide the basis for the subsequent preparation of the Park Management Plan.

I am pleased to approve this Interim Management Statement for Sable Islands Provincial Nature Reserve Park.

D. R. Johnston
Regional Director
Northwestern Region

INTRODUCTION

The Sable Islands Provincial Nature Reserve includes the Sable Islands in Lake of the Woods (locally referred to as the Sand Hills) and a wetland backshore area located within Spohn Township.

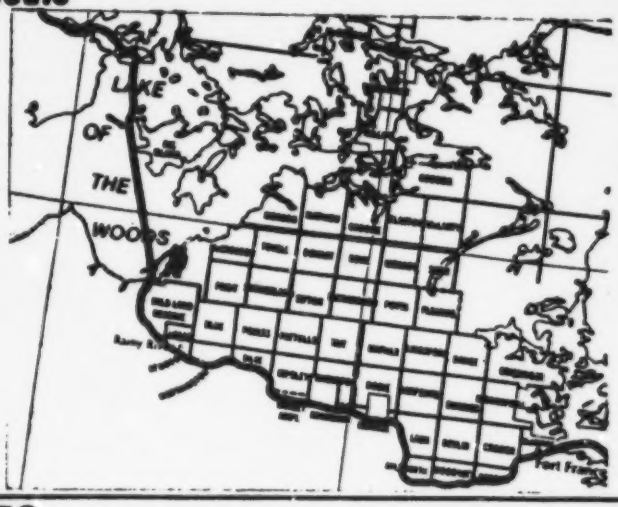
Generally, traditional local uses of this area (with the exception of timber harvesting) will be permitted to continue provided they do not jeopardize long-term park objectives or adversely impact known park values. The park management plan will further address the specific management of this unique area.

BACKGROUND INFORMATION

NAME:	Sable Islands Provincial Nature Reserve
PROPOSED CLASS:	Nature Reserve
M.N.R. DISTRICT:	Fort Frances
M.N.R. REGION:	Northwestern
TOTAL AREA(ha):	1980 ha. **LAND:** **WATER:**
SITE REGION:	5S
SITE DISTRICT:	5S-2
DATE in REGULATION:	1985.01.24

REGIONAL SETTING MAP

Scale



TARGETS

1 LIFE SCIENCE REPRESENTATION

site type/landscape unit	species/communities
Landscape Unit 31 - Rainy River Clay Plain	Sand beach dunes - marsh complex and shoreline marsh Two species rare in Ontario: puccinellia nuttaliana; and koleleria cristata

2 EARTH SCIENCE REPRESENTATION

geological theme	feature
Lacustrine landform processes	Barrier islands Dunes Flooded lagoon and low wetlands

3 CULTURAL RESOURCE REPRESENTATION

theme	theme segment
Unknown	Unknown

4 RECREATION OPPORTUNITIES

day use	car camping	wilderness/back country
n/a	n/a	n/a

INVENTORIES

level / type	earth science	life science	cultural	recreational	other
reconnaissance completion date	1979	1978			
detailed completion date					
required?	yes	yes	yes	yes	

DATE 1985.05.28

MANAGEMENT GUIDELINES

1. LAND TENURE

There are presently no land use permits, leases, easements, etc. within the park area.

Guideline

Requests for any form of land tenure will not be considered.

2. LAND ACQUISITION/DISPOSITION

There are presently two patented parcels located within the mainland portion of the park: parcel 2931 - 64.75 ha.; and parcel 11826 - 32.37 ha.

In addition, the mainland portion of the park is completely abutted by patented property.

Guidelines

The Ministry of Natural Resources will not actively seek to acquire any patented property pending the completion of the park management plan. The Ministry will however, enter into negotiations with property owners interested in disposing of property when such properties are considered significant to the management of the park.

The further disposition of Crown-owned lands will not be considered.

3. EXISTING/PROPOSED DEVELOPMENT

There are no existing park facilities or developments within the park.

Guideline

Proposals for park development will not be considered pending the completion of the park management plan. Park development will be limited to trails, necessary signage and interpretive facilities for research and educational purposes.

4. RECREATION ACTIVITIES

Recreational activities presently occurring within the park area include day use recreation, camping, hunting, fishing and bird watching. These activities do not pose a threat to the values of the park. Use of all-terrain vehicles on the sand dune area of the islands is an activity which is presently damaging the dune features and nesting sites.

Guidelines

The activities mentioned above will be permitted to continue with the exception of all-terrain vehicle use.

The islands will be posted to prohibit the use of all-terrain vehicles under Section 21(K) Provincial Parks Act.

Public day use and camping will continue on a free-use basis.

5. COMMERCIAL ACTIVITIES

A portion of one trapline is presently located within the park.

A small amount of timber is harvested from isolated patches within the mainland portion of the park area.

Bait fishing is conducted in the shallow waters adjacent to the islands by two licensees.

There are no active mining claims within the park nor is exploration presently occurring.

Guidelines

Trapping on the existing trapline will be permitted to continue within the park area. Proposals for trapline cabins will not be considered.

Bait fishing will be permitted to continue within the park area.

Commercial logging will not be permitted in the park.

Mineral exploration/extraction will be permitted to continue as per the District Land Use Guidelines. These activities may be authorized by the issuance of an Exploratory Licence of Occupation under Section 190 of the Mining Act.

Aggregate extraction and the extraction of peat will not be permitted within the park.

6. NATIVE INTERESTS

There are no known Native interests in the park area.

7. NATURAL RESOURCES

A number of natural resource values have been identified to date through preliminary inventories. These values include plant and bird species considered to be rare in Ontario and in some instances, rare in Canada. Management efforts will attempt to ensure that significant species continue to receive adequate habitat protection.

8. CULTURAL RESOURCES

No known cultural resources have been identified to date. Further investigation is required prior to the preparation of the park management plan.

9. CLIENT SERVICES

Guidelines

Information on the earth and life science features of this area should be available to the public in order to gain an appreciation of the importance of the Sable Islands.

Information regarding the restriction of all-terrain vehicles will be available to the public as well as posting the islands against this use.

10. RESEARCH

More complete earth and life science inventories will be necessary prior to the preparation of the park management plan.

Additional research topics include: the compilation of plant and bird checklists; dune stabilization and vegetation management studies; and the geomorphology of the barrier dune complex (aquatic and aeolian movement of sand).

11. MARKETING

Not applicable.

SOURCES/REFERENCES

Kor, P., Earth Science Inventory Checklist: Sable Islands, Ontario Ministry of Natural Resources, 1979.

Noble, T., Life Science Inventory Check-sheet; Sable Islands Beach/dune Complex and Shoreline Marsh. Ontario Ministry of Natural Resources, 1978.

Ontario Ministry of Natural Resources, Fort Frances District Land Use Guidelines, 1983.

4. SABLE ISLANDS

a. Area Description

Area 4 comprises approximately 1800 hectares, covering the Sable Islands in Lake of the Woods in addition to a block of the adjacent mainland. The islands are presently used as a day-use recreational area by anglers who fish the adjacent waters. Waterfowl hunters place their blinds along the island and mainland shorelines. Bait fishing is conducted in the shallow waters adjacent to the island. Limited deer hunting and resident trapping are conducted on the mainland portion of the area. Small volumes of timber are harvested from the isolated patches of productive forest within the area. Area 4 serves as a highly productive staging and breeding area for waterfowl. The area supports no permanent habitations and is presently inaccessible by road. The recommended park lies in an area of moderate mineral potential and high peat potential. Two private land holdings are located within the area.

b. Land Use Intent

The Sable Islands are recommended for park status. The proposed park would provide representation of a provincially significant barrier bar and sand dune complex, as well as a representative marsh area in Landscape Unit 31 (Rainy River Clay Plain). Boundaries of the area have been revised so as to exclude lands of significant agricultural potential where these are located adjacent to areas presently being farmed.

Given the variety of land uses that are ongoing within the area, it is further recommended that most of these uses be permitted to continue. The exception to this would be commercial logging which is not recommended as a continuing use. An outline of those ongoing activities which are recommended for continuation is given in the Land Use Activity section, however it must be realized that further refinement of these recommendations may be required in some instances.

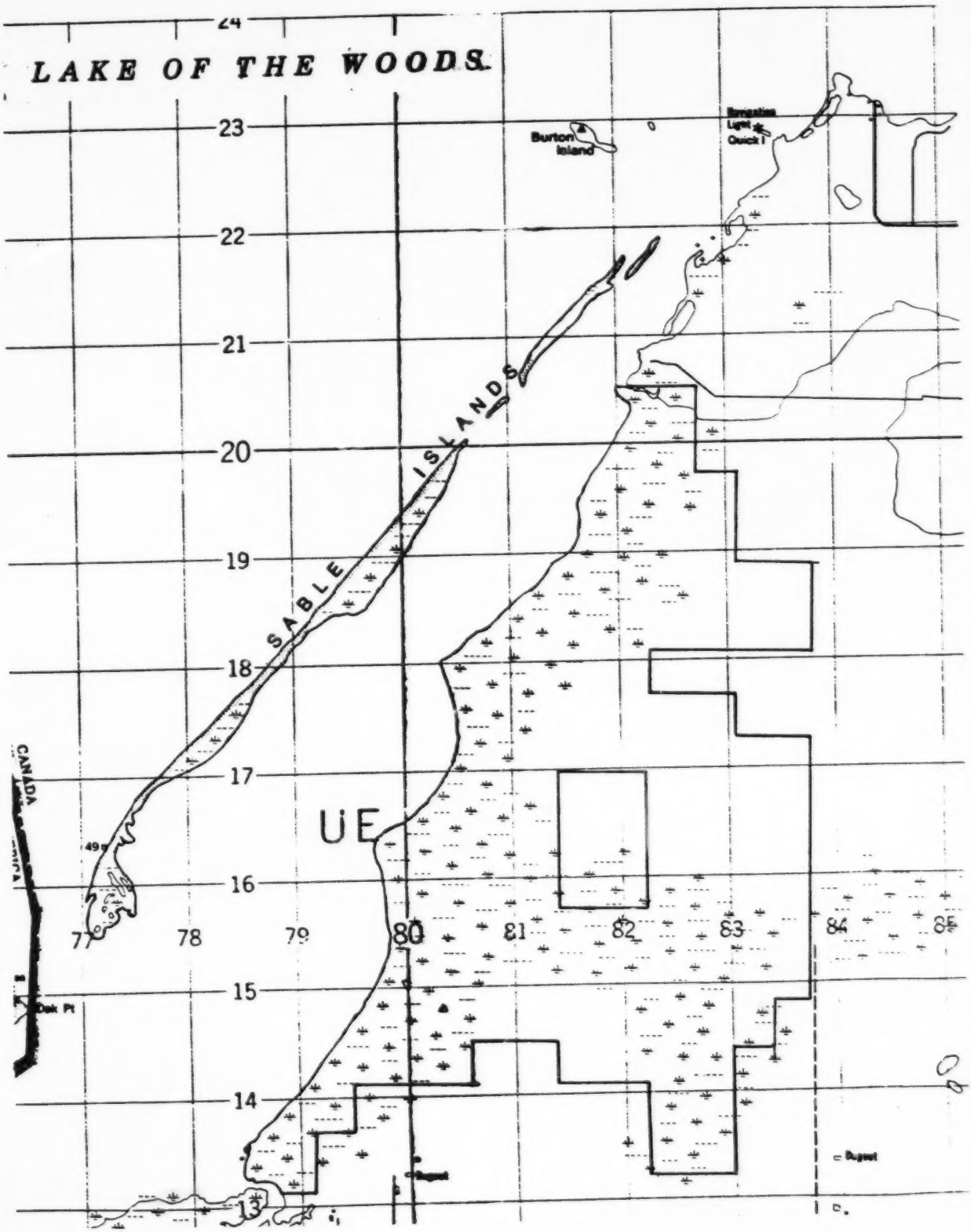
The Land Use Activity section also provides guidelines for how the Ministry will attempt to influence the use of private lands located within the recommended candidate. These guidelines could be refined as more information is gathered concerning the contribution of these lands towards meeting park objectives.

Until such time as the area is established as a provincial park, it will be managed essentially as Crown lands with private land inholdings. Traditional uses of the area will be permitted to continue provided they do not jeopardize long term park objectives, or impact on known park values.

c. Land Use Activity For Area No. 4—SABLE ISLANDS

Activity	Acceptable Yes	Acceptable No	Recommended Guidelines
Aggregate Extraction		x	Not permitted on Crown lands. Will be discouraged on private lands.
Agriculture		x	
Bait Fishing	x		It is recommended that existing bait fish operations be permitted to continue.
Commercial Fishing		x	
Cottaging		x	
Crown Land Recreation		x	
Forestry		x	
Hunting	x		It is recommended that existing hunting activities be permitted to continue.
Mining		x	
Provincial Parks	x		Recommended for park status.

Activity	Acceptable		Recommended Guidelines
	Yes	No	
Roads		x	
Rural Residential		x	
Sport Fishing		x	
Tourism		x	
Trapping	x		It is recommended that existing trapping activity be permitted to continue.
Wildlife Viewing	x		
Wild Rice Harvesting	x		It is recommended that existing activity be permitted to continue.
Urban Development		x	


LAKE OF THE WOODS
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ONTARIO NATURE RESERVES PROGRAM – LIFE SCIENCE INVENTORY CHECK-SHEET

NAME	MAP NAME	MAP NUMBER	UTM REF.
Sable Islands - Beach Dune-Marsh Complex	McInnis Creek	52D/15	800190

COUNTY, DISTRICT or REGIONAL MUNICIPALITY: Rainy River District

LAT.: 48° 55'N | LONG.: 94 ° 39'W | ALT. MIN.: 1060 | ALT. MAX.: 1080

LOCALITY: Lake of the Woods

TOWNSHIP | LOTS | CONCESSIONS

AREA: acres | ha

OWNERSHIP: Crown

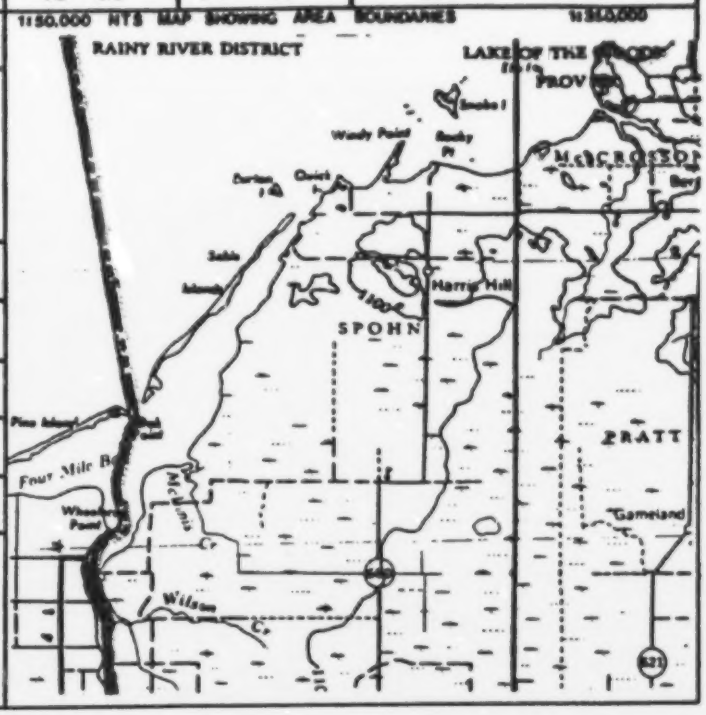
ADMINISTRATION: Ministry of Natural Resources

FOREST REGION AND DISTRICT	SITE REGION AND DISTRICT
L.12-Rainy River	5S-2 Rainy River
MNR REGION AND DISTRICT	CONSERVATION AUTHORITY
NWR-Fort Frances	

AERIAL PHOTOGRAPHS — BASE MAP:

YEAR | ROLL | FLIGHT LINE | NUMBERS

1:50,000 NTS MAP SHOWING AREA BOUNDARIES 1:250,000



PHYSICAL AND BIOLOGICAL FEATURES

Sable Islands, located in Lake of the Woods at the mouth of the Rainy River, exhibits an excellent sand beach dune-marsh complex which is extremely rare in the Site Region, possibly even unique. This northeast-southwest trending lineal sand bar is approximately five miles (8.0 km) in length and generally averages about 250 feet in width for the greater part of its length depending on lake water levels. Breaks in this sand bar complex at the northwest end have resulted in the formation of four islands, the longest one being 2½ miles (4 km). The prevailing west winds have created a series of hummocky sand beach dunes immediately behind the west shoreline. These dunes are active as they are presently encroaching into the shallow marshes on the leeward side of the islands. Although blowouts are numerous, some stabilization has occurred on this leeward side where wind velocities are somewhat reduced. Willow (Salix sp.), beach pea (Lathyrus japonicus) and wormwood (Artemesia sp.) have a rather tentative existance on the windward side of the dune area adjacent to the shoreline. The dunes further in from the shorelines support several significant species, two of which are listed as rare in Ontario, another species whose occurrence here is the only location outside of southern Ontario, as well as other species which are of regional significance in that they are not wide spread and found here at the extreme limits of their range.

DATA SHEETS ATTACHED

PHYSICAL DESCRIPTION	X	SUMMARY SPECIES LISTS	
VEGETATION SUMMARY	X	PHYSICAL FEATURES MAP	
EVALUATION SHEET		VEGETATION MAP	
COMMUNITY DESCRS.		BIBLIOGRAPHY	
COMMUNITY COMP. LISTS		PHOTOGRAPHS	

MAJOR INFORMATION SOURCES

EVALUATION AND PRIORITIES

These islands are unique in the site region and deserve Nature Reserve status. Every effort should be made to protect these islands until they receive such status.

DATE COMPILED	COMPILER
November 16, 1978	T. Noble

PHYSICAL DESCRIPTION

52D/15 | 800190

BEDROCK

PHYSIOGRAPHY

The Sable Islands are an offshore bar upon which a series of sand beach dunes have developed. A marsh has developed on the leeward side of these dunes in the shallow waters between the islands and the mainland. This bar may represent a former beach line when lake levels were somewhat lower (prior to dam construction).

SOILS

A soil profile has not developed. The texture of the dune material is fine sand.

GROUNDWATER

Percolation through the dune material is quite high owing to the relatively even grain size of this dune material. The depth to the water table is dependent on the height of the dunes above the existing lake level. Due to surface winds and the high percolation rate soil moisture conditions are on the dry side.

SURFACE WATER

No surface water exists on the dunes but open water and shallow marshes surround this feature.

SHORES

The shores of these islands consist of sand and are extremely exposed especially on the windward side (west). Lake level fluctuation probably occurs owing to dams on the Rainy River and at Kenora.

CLIMATE

The microclimate of these islands is warmer than normal.

DISTURBANCE HISTORY

Disturbances consist of changing water levels. Occasional visitations are probably made by fishermen who frequent the mouth of the Rainy River.

VEGETATION SUMMARY 52D/15 800190

NUMBER	ASSOCIATION OR COMPLEX	AREA (ha)	SOIL TEXTURE	MOISTURE REGIME	MICRO-CLIMATE	SOIL pH	DATA SHEET
1.	Sand Beach Dune Community		sand	v.dry - dry	warm		
2.	Sedge Marsh		sand	satura-ted - open water	warm		

Some Plant species noted during brief visit to Sable Islands August 17, 1978.

Parthenocissus quinquefolia

Rhus radicans

Vitis riparia

Celtis occidentalis

Hudsonia tomentosa

Humulus lupulus

Carex lasiocarpa

Cyperus schweinitzii

Corispermum nitidum

Puccinellia nuttalliana

Prunus virginiana

P. pumila

Carex lacustris

Andropogon gerardi

Artemesia sp.

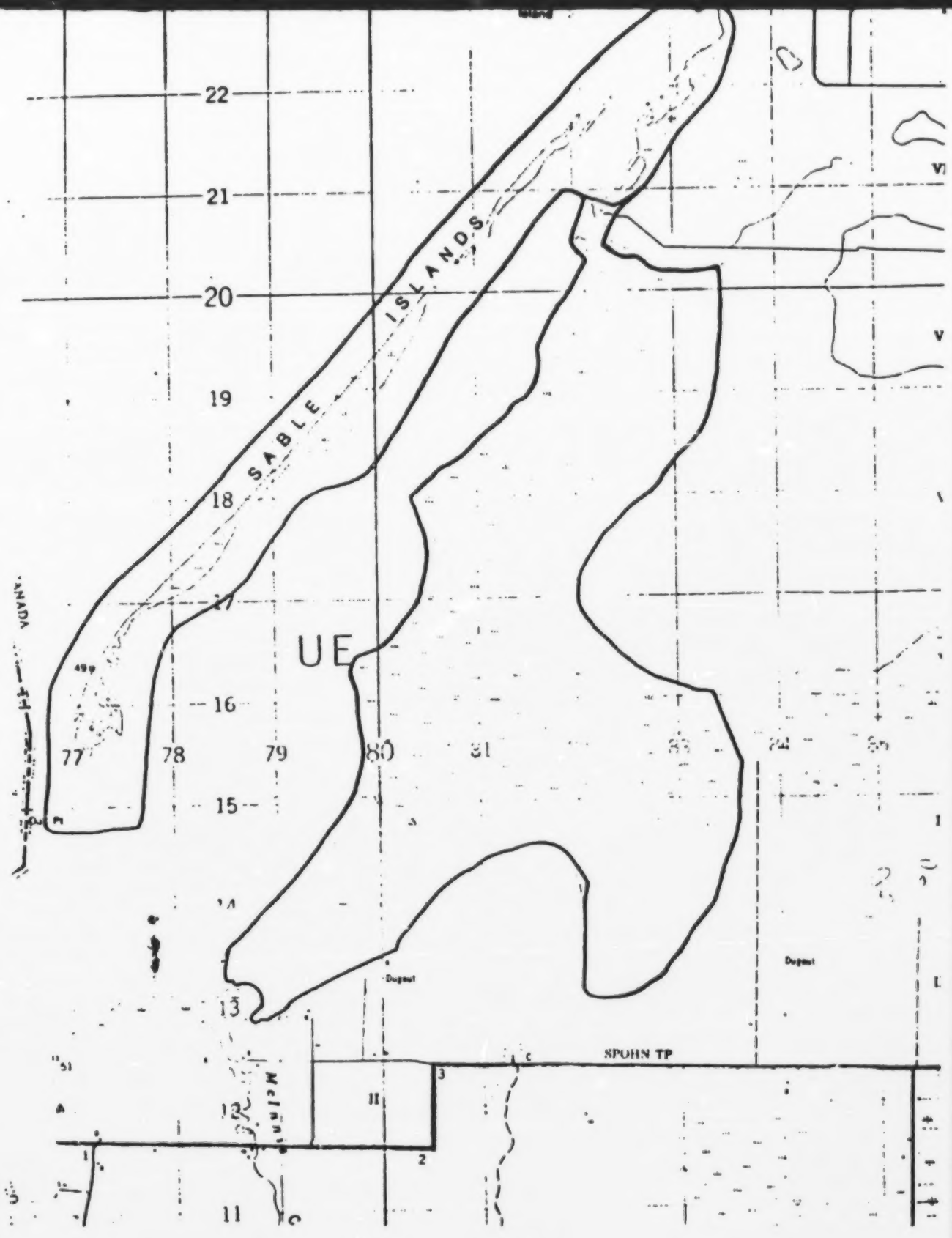
Salix sp.

Koeleria cristata (k. pyramidata)

Lathyrus japonicus

Fraxinus pennsylvanica

Elymus canadensis



Areas recommended for inclusion within a protective park status. Offshore reserves should be determined in a Master Planning process. Also to be determined are administrative boundaries around the mainland reserve.

EVALUATION

52D/15 | 800190

OUTSTANDING ASSOCIATIONS

The sand dune complex is of great significance as it may be the only one of its kind in Site Region 5S. The dunes themselves, the vegetation they support and faunal members found here combine to make these islands an outstanding feature of Northwestern Ontario.

SIGNIFICANT SPECIES OR FEATURES

-Andropogon gerardi Vitm. - prairie speices
-Puccinellia nuttaliana (Schult.) - prairie species, rare in Ontario (Argus & White, 1977)
-Humulus lupulus (hops) - northern limit of range, uncommon
-Vitis riparia (river grape) - northern limit of range
-Celtis occidentalis (hackberry) - only known occurrence in Northwestern Ontario
-Rhus radicans (poison ivy) - northern limit of range
-Hudsonia tomentosa (beach heath) - northern limit of range
-Parthenenocissus quinquefolia (virginia creeper) - northern limit of range
-Corispermum nitidum (bugseed) - introduced species, made its way to this island locatio
-Koleleria cristata (k. pyramidata) - rare in Ontario (Argus & White)
-garter snake
-significant insect species
-unusually large population of toads and frogs
-significant bird population including species uncommon for area (personal communicatio Al Warmington)

also Polygonatum canaliculatum (rare in Canada)

POTENTIAL DISTURBANCES AND THREATS

Higher water levels would pose a threat to this ecosystem. The present level of vegetation does not pose a threat.

BRIEF SUMMARY

RECOMMENDATIONS

1. The Sable Islands are a highly significant ecosystem that may be unique in the Site Region. It supports an excellent example of sand beach dunes, a number of significant plant species, including at least two species considered rare in Ontario, an abundance of frogs and toads and significant bird species. For these reasons, the Islands should be given Nature Reserve status. More detailed inventory work here might turn up even more features of natural significance both on a regional and provincial scale.

ONTARIO NATURE RESERVES PROGRAM – LIFE SCIENCE INVENTORY CHECK-SHEET

NAME	MAP NAME	MAP NUMBER	UTM REF.
Spohn Twp.-Shoreline Marsh	McInnis Creek	52D/15	800160

COUNTY, DISTRICT or REGIONAL MUNICIPALITY: District of Rainy River

LOCALITY: Lake of the Woods

TOWNSHIP: Spohn | LOTS | CONCESSIONS

AREA: acres | ha

OWNERSHIP:

ADMINISTRATION:

FOREST REGION AND DISTRICT: L.12-Rainy River

SITE REGION AND DISTRICT: 5S-2

MNR REGION AND DISTRICT: NWR-Fort Frances

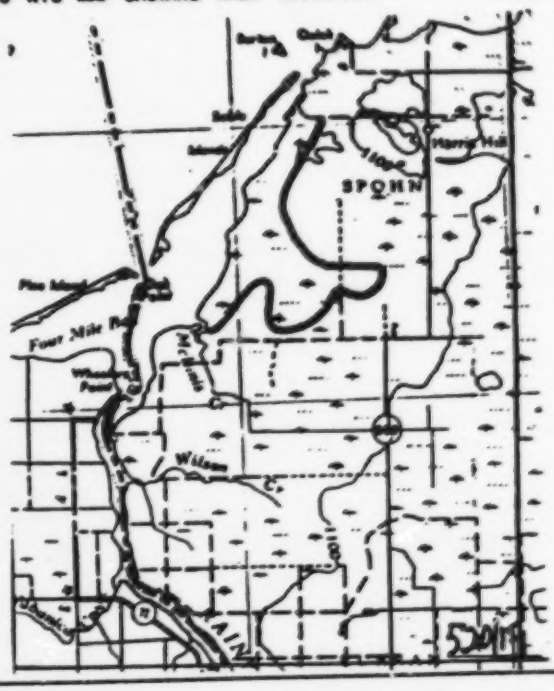
CONSERVATION AUTHORITY:

AERIAL PHOTOGRAPHS: YEAR | ROLL | FLIGHT LINE | NUMBERS

BASE MAP:

LAT.	LONG.	ALT. MIN.	ALT. MAX.
48° 53'N	94° 37'W	1060	1065

1:50,000 NTS MAP SHOWING AREA BOUNDARIES 1:250,000



PHYSICAL AND BIOLOGICAL FEATURES

Located at the mouth of the Rainy River is an extensive area of shoreline marsh. The configuration of this feature at present may be somewhat different at the present time than in the past owing to differences in lake water level as a result of dams at Kenora and Fort Frances. The water levels prior to damming may have been as much as 10 feet lower than they are now. Historical records pertaining to the fur trade indicate large marshes that had to be paddled through at the mouth of the Rainy River giving the impression that these marshes were much larger than they are at the present time.

A brief helicopter flight over the marsh indicated that the main dominant may be blue joint grass (Calamagrostis canadensis) in the shallow waters and cat-tail (Typha latifolia) in deeper waters. The information package for the Lake of the Woods Planning Area (MNR, 1974) indicates large areas of wild rice (Zizania aquatica) occurring here also.

This wetland feature is bounded on the south by McInnis Creek and on the north end by a small creek which empties into the lake. About midway up the length of the shoreline, the wetland extends inland to the east where it evolves into other wetland types such as swamp and possibly graminoid fen.

DATA SHEETS ATTACHED

PHYSICAL DESCRIPTION	☐	SUMMARY SPECIES LISTS	☐
VEGETATION SUMMARY	☐	PHYSICAL FEATURES MAP	☐
EVALUATION SHEET	☐	VEGETATION MAP	☐
COMMUNITY DESCRS.	☐	BIBLIOGRAPHY	☐
COMMUNITY COMP. LISTS	☐	PHOTOGRAPHS	☐

MAJOR INFORMATION SOURCES

EVALUATION AND PRIORITIES

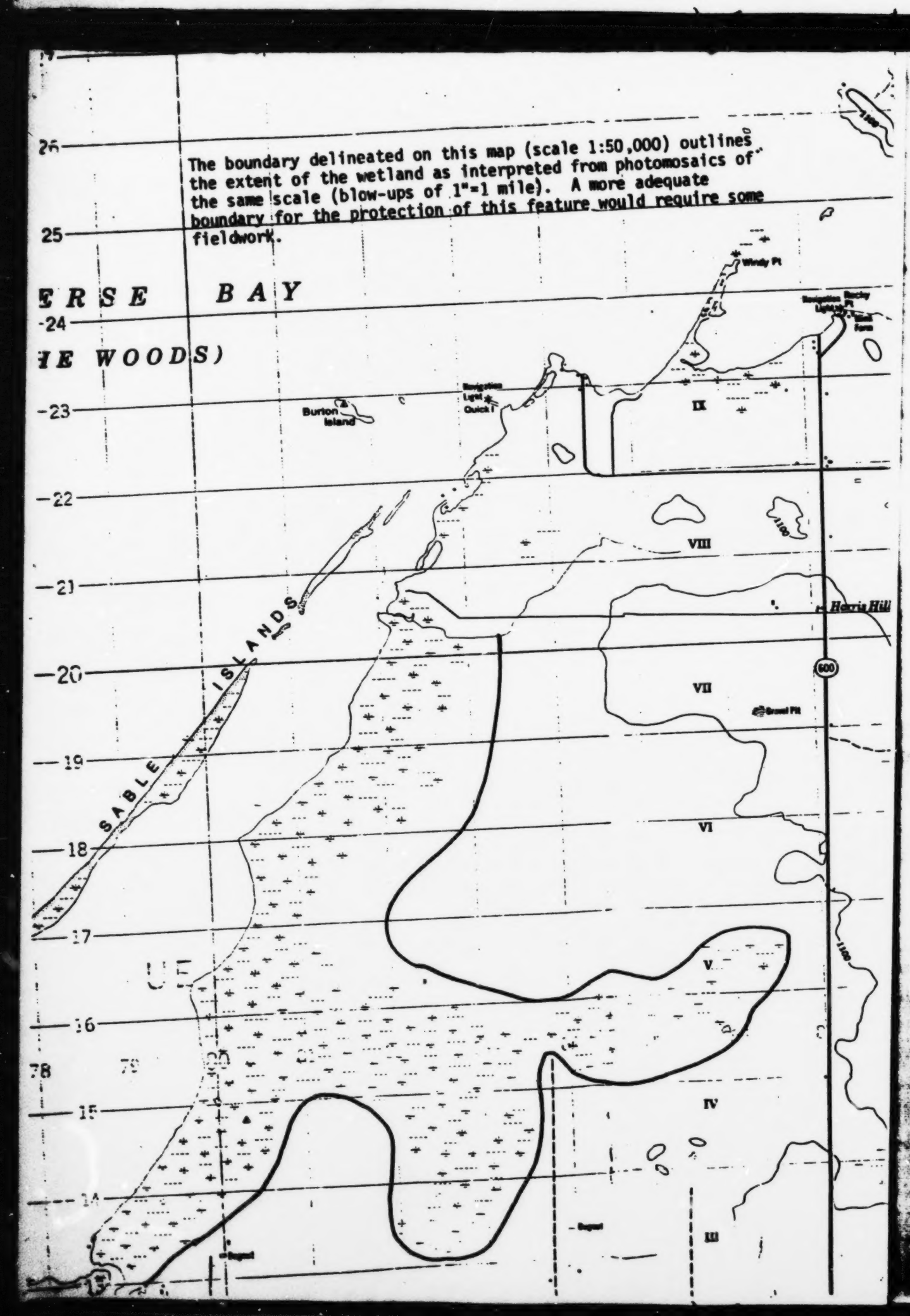
This is an excellent example of a wetland feature. It has potential as a candidate nature reserve.

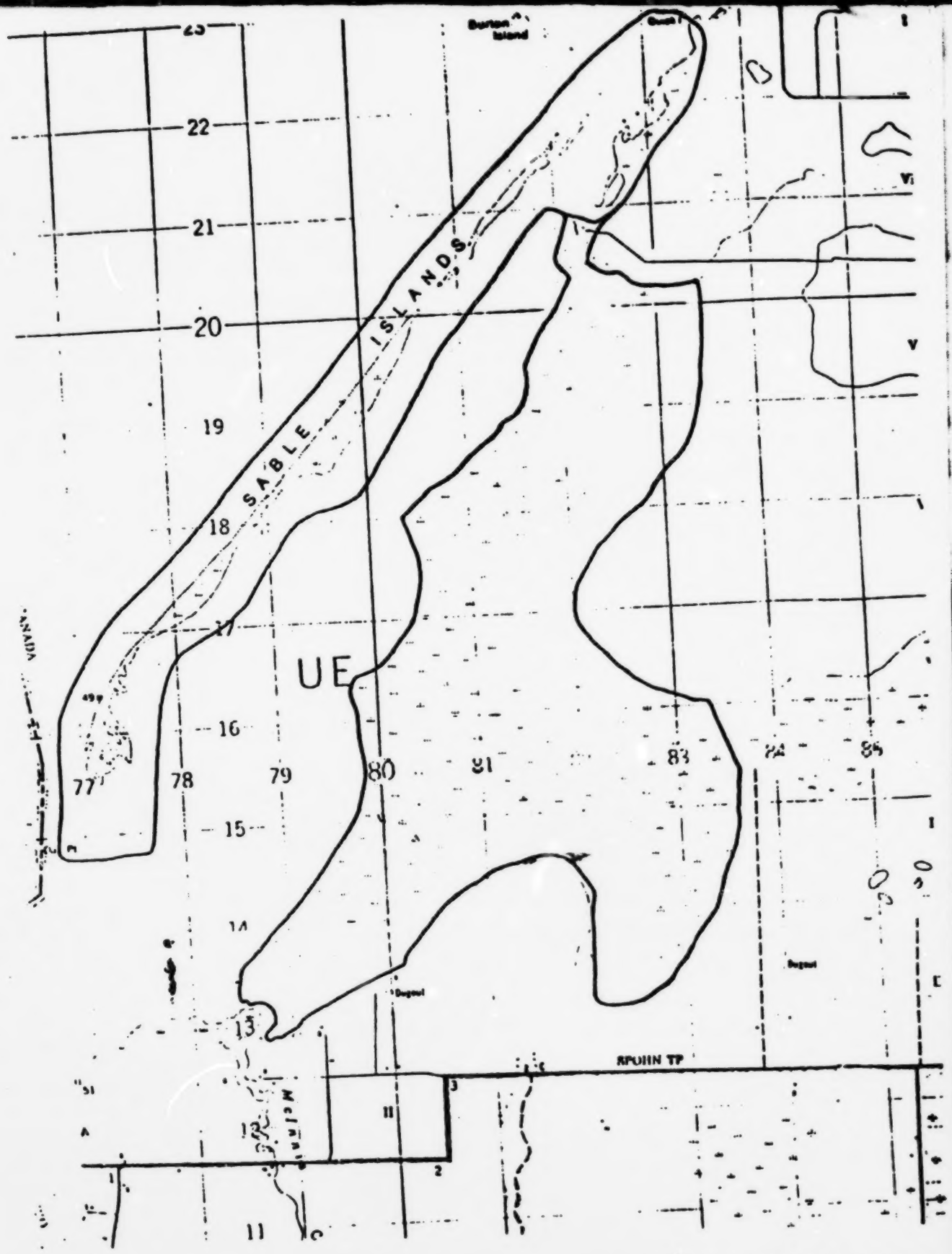
DATE COMPILED	COMPILER
December 1, 1978	T. Noble

Ontario Ministry of Natural Resources, Division of Parks, Park Planning Branch, Queen's Park, Toronto, Ontario, M7A 1W3

This is an excellent wetland feature. Much intensive field work would be required to adequately describe the wetland types found here on the basis of vegetation attributes.

The boundary delineated on this map (scale 1:50,000) outlines the extent of the wetland as interpreted from photomosaics of the same scale (blow-ups of 1"=1 mile). A more adequate boundary for the protection of this feature would require some fieldwork.





Areas recommended for inclusion within a protective park status. Offshore reserves should be determined in a Master Planning process. Also to be determined are administrative boundaries around the mainland reserve.

FIELD NOTES

FIELD NO.: 7-3 DATE: 1980.07.16

AREA NAME: Spohn Twp. Backshore

LOCATION: 52D/15, 798140

FEATURE: Marsh

ABIOTIC COMPONENTS - SLOPE - level

ASPECT -

MICROCLIMATE - normal to colder than normal

DRAINAGE - internal, very high water table, some standing water

SUBSTRATE - peat layer (over sand?)

BIOTIC COMPONENTS - VEGETATION COMPOSITION BY STRATUM:

A) TREE -

B) SHRUB - Salix spp.

C) HERB - Carex spp., Phragmites communis, Typha latifolia, Campanula aparinoides, Scuttellaria epilobifolia.

D) BRYOID - some brown mosses

- FAUNAL NOTES - Bobolink, Marsh Hawk

INCIDENTAL NOTES - 2 photos, very dry summer

FIELD NOTES

FIELD NO.: 7-4 DATE: 1980.07.17

AREA NAME: Spohn Twp. Backshore

LOCATION: 52D/15, 799163

FEATURE: Marsh

ABIOTIC COMPONENTS - SLOPE - level

ASPECT -

MICROCLIMATE - normal to colder than normal

DRAINAGE - internal, very high water table, some standing water

SUBSTRATE - peat layer c. 2½ feet over sand

BIOTIC COMPONENTS - VEGETATION COMPOSITION BY STRATUM:

A) TREE -

B) SHRUB - Salix spp.

C) HERB - Carex spp., Potentilla palustris, Menyanthes trifoliata, Scuttelaria epilobifolia, Typha latifolia, Campanula aparinoides, Mentha arvensis, Lycopus uniflorus, Hypericum ellipticum, Mimulus ringens, Sium suave, Physotegia virginiana, Houstonia longifolia, Rumex sp., Polygonum sp.

D) BRYOID - some brown mosses

- FAUNAL NOTES - Red-winged Blackbird
Leopard Frog

INCIDENTAL NOTES - active erosion by lake
- very dry conditions

NAME	MAP NAME	MAP NUMBER	UTM REFERENCE
Sable Islands	McInnis Creek	52D/15	800190

COUNTY	LAT.	LONG.	ALT. MIN.	ALT. MAX.
	48° 55'	94° 38'	342 m (1060')	352 m (1090')

TOWNSHIP
Spohn

LOT CONCESSION
On the International Boundary, at the mouth of the Rainy River, 100 km S. of Kenora, Ontario.

AREA Island- 318.7 ac. 128.9 ha.
Total 4422 acres 1789 ha.

OWNERSHIP
Crown

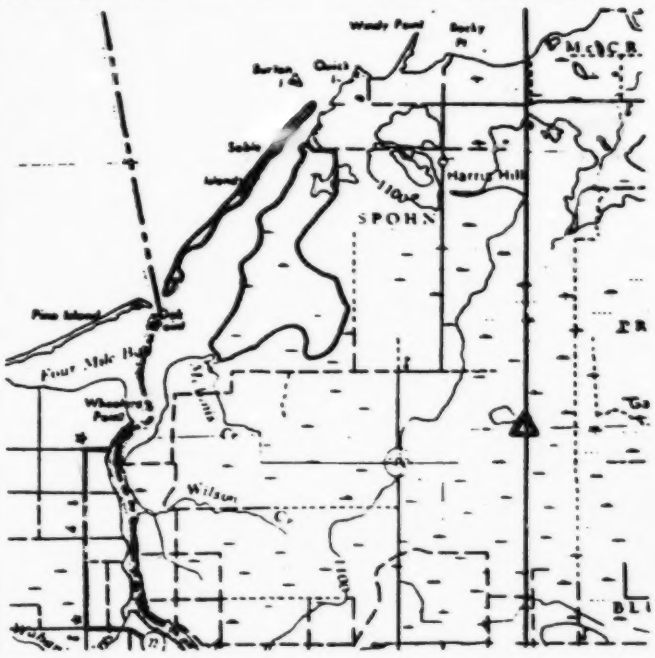
ADMINISTRATION

MNR REGION & DISTRICT	CONSERVATION AUTH.
NWR - Fort Frances	

AERIAL PHOTOGRAPHS — BASEMAPS

YEAR	ROLL	FLIGHT LINE	NUMBERS
1965	132	4839	158-160
	33	4838	1-3
	33	4837	59-60

1:250,000 NTS MAP SHOWING AREA BOUNDARIES



EARTH SCIENCE FEATURES
- a series of barrier islands across the mouth of Rainy River, consisting predominantly of lacustrine sand and fine aeolian sand
- a ridge of active to semi-stabilized dunes marks the 8 km length of the deposit
- flooded lagoon and low wetlands on mainland part of history

SENSITIVITY
- highly sensitive to overuse; surficial materials become very unstable when vegetative cover is altered or removed; blowouts through dunes are common.

SIGNIFICANCE
- of Provincial significance; excellent barrier islands with scientific and interpretive value.

MAJOR REFERENCES

DATE COMPILED	COMPILER
13 February 1979	P. Kor

Ontario Ministry of Natural Resources, Division of Parks, Parks Planning Branch, Queen's Park
Toronto, Ontario, M7A 1W3

Physical Features:

The Sable Islands consist of a series of offshore islands in Big Traverse Bay, Lake of the Woods, about 100 km south of Kenora at the mouth of the Rainy River. The islands trend southwest-northeast for a distance of 8 km, forming a chain of barrier islands before an irregular shoreline. The islands consist predominantly of sand, ranging from coarse lacustrine sand to fine winnowed aeolian sands, the latter forming an extensive line of dunes up to 10 m high, almost the entire length of the island chain. The lake-facing beach ranges from a few feet to hundreds of feet wide, depending on the level of Lake of the Woods. This beach extends lakeward at a very shallow slope, forming a series of offshore megaripples which are very visible in the air photographs. At times of low water, the initial offshore megaripple may be exposed to enclose a forebeach marsh. A gentle to steep slope rises from the beach to form the dune ridge parallel to the beach. Large blowouts, generally devoid of stabilizing vegetation, have advanced across this dune ridge and are encroaching on the lagoon environment in the lee of the barrier islands. For the most part, the dunes are stabilized by a thick tangle of shrub vegetation. In the lee of the dune ridge, a distinct, steep slope drops to the water level and an extensive lagoon marsh environment. This lagoon environment consists of shallow still waters and thick tangles of shrubs and grasses. Separating the barrier islands from the very extensive peatland marshes of the mainland is up to 2.5 km of shallow open water of the lagoon. At the south end of the barrier islands is a complex recurved spit with associated enclosed pools and marsh wetlands. At least six sand spits indicate the outward development of this recurved spit system, a process which is likely still in progress. The north end of the barrier chain is fragmented separate islands. However, the chain is joined by a submarine sandbar, the breaks only representing breaches in this bar. The Sable Islands form essentially one long barrier island at times of very low water level in Lake of the Woods (observed, summer 1980).

The study of the formation of the Sable Islands is still in progress and may not be completed until more on-site evaluations are completed. The following discussion covers several points which are pertinent to the understanding of the genesis of the islands.

The Sable Islands are the Canadian extension of a larger shoreline system which includes Pine Island and extensive beaches in Minnesota. Pine and Sable Islands enclose a large area of lagoon environment adjacent to an essentially flooded mainland. The sand forming the islands and shoreline originated as lacustrine deposits in glacial Lake Agassiz. Part of a large delta deposit described by Johnston (1915) was eroded by the lowering waters of glacial Lake Agassiz and is presently being affected by the waters of Lake of the Woods (Kor, 1976). The deltaic deposits were and are being transported, probably through lake currents and storm waves, southward to the Rainy River area. The Rainy River probably contributes a sediment load as well, as do the shores of Minnesota.

It is possible that the Sable Islands, Pine Island and much of the shoreline of this portion of Lake of the Woods at one time formed the shoreline of Lake of the Woods and perhaps of the waning stages of glacial Lake Agassiz. Windy Point and sand ridges paralleling the Sable Islands also indicate the presence of former shorelines which now lie isolated in a swamp mainland. These also may be the result of shoreline processes in a waning glacial Lake Agassiz or early Lake of the Woods.

Much reference has been made here to submergence of the Lake of the Woods. Barrier islands by definition form as the result of shoreline submergence (King, 1972, p.405; Hoyt, 1967). In the late 1800's and early 1900's, several dams were built on the rivers which drain Lake of the Woods near Kenora. This helped to stabilize the lake level at about 1-2 m above its previous level, thereby flooding

the shallow shoreline areas, especially those near the mouth of Rainy River. Comparison of present day shorelines with maps produced in 1859 and 1886 (see map attached) illustrate this shoreline submergence. No historical cartographical evidence could be found to indicate whether or not the Sable Islands actually formed the shoreline of Lake of the Woods at one time. Explorers' maps dating as far back as 1775 seem to indicate the presence of a linear chain of islands at the mouth of the Rainy River.

The International Boundary follows an irregular path from the present mouth of the Rainy River to just past Sable and Pine Islands. If, at the time of its establishment in 1842, the boundary was established along the centre line of the Rainy River as it existed then, it seems that the actual shoreline in 1842 stood at the Sable Islands. Cartographical evidence does not substantiate this, however. Of course, the boundary may have been chosen to follow the central channel of the river through an already existing lagoon past the Sable Islands.

Significance:

The Sable Islands are the only barrier islands presently known to exist at such a large scale in northwestern Ontario. They are anomolous features in a region that is generally thought to consist of "rock and swamp". Of high scientific, educational and interpretive value, the islands pose several questions as to their origin and future, and display a variety of geomorphological features and processes. From an earth science point of view, the Sable Islands contribute significantly to the Lacustrine Landform/Process Theme of the Earth Science Framework, as well as being potentially representative of littoral processes in glacial Lake Agassiz. The mainland shoreline area is important to the interpretation of the history and future of the area, and should therefore be protected. Life science values are also high in this mainland area (see Life Science Checksheet).

Recommendations:

It is recommended that:

1) Sable Islands and a significant portion of the mainland marshes be established as a Nature Reserve affording it full protection status within the Provincial Parks system; the islands encompass roughly 125 ha (309 ac.), whereas the recommended mainland area covers about 1750 ha (4325 ac.). Shoreline reserves and the final mainland boundaries should be determined during the Master Planning process;

2) an expert in shoreline processes be contracted to determine the origins and future of the islands (Dr. B. A. M. Phillips is available for such research at Lakehead University, Department of Geography); Dr. Phillips has initiated the first stages of such a study (summer 1980);

3) a cleanup programme be initiated to remove the accumulated garbage and flotsam from years of use by fishermen and hunters as a resting place.

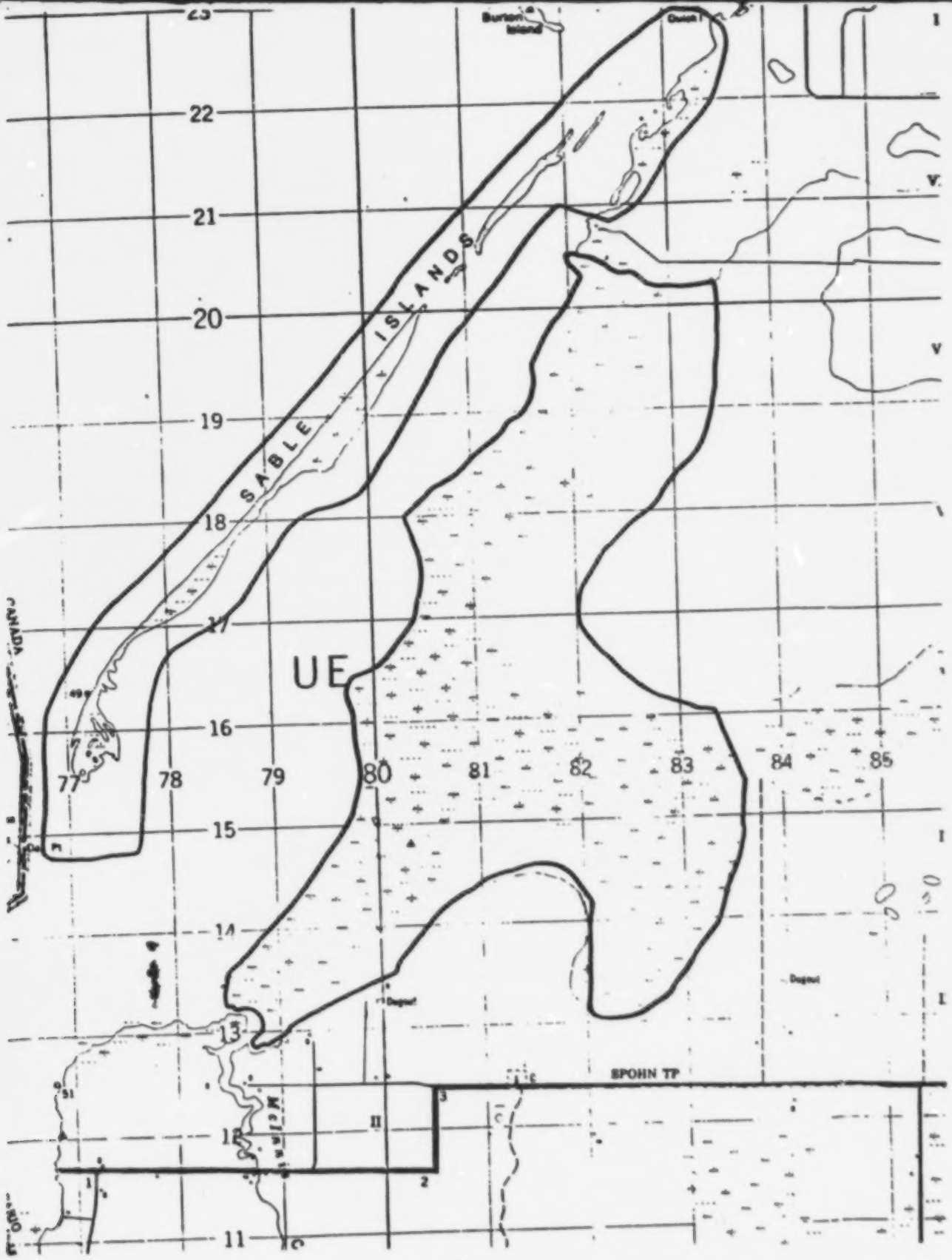
References:

Hoyt, J.H., 1967. Barrier Island formation. Bull. Geol. Soc. Am., V.78, p.1125-1136.

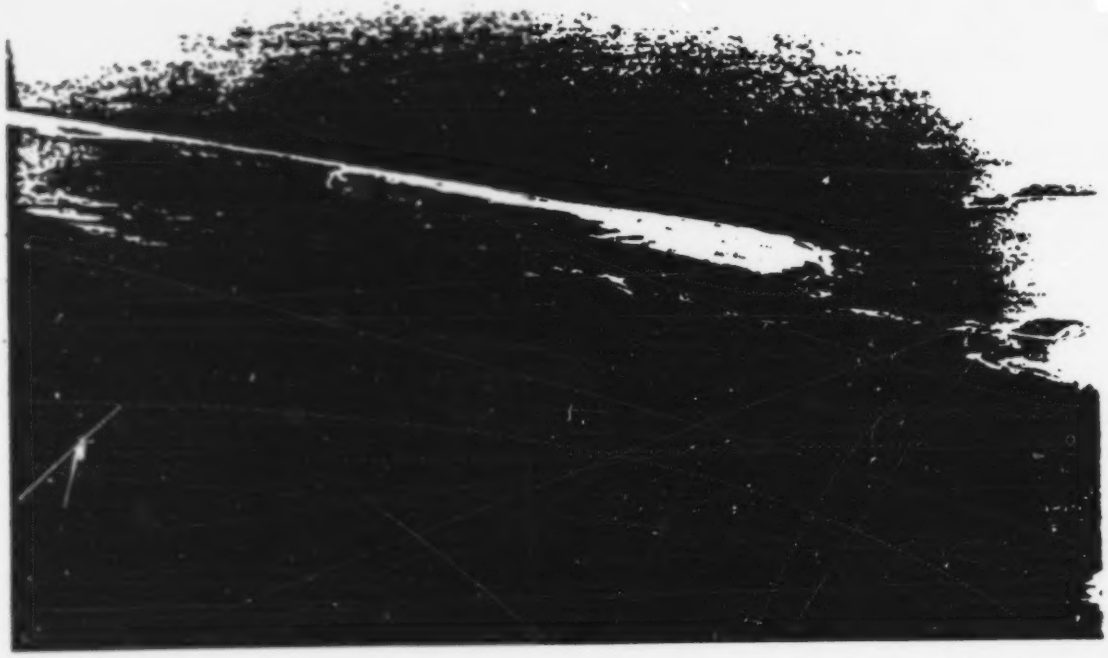
Johnston, W.A., 1915. Rainy River District, Ontario. Surficial Geology and Soils. Geol. Surv. Can., Mem.82.

King, C.A.M., 1972. Beaches and Coasts. Edward Arnold (Publ.) Ltd., London, 570 p.

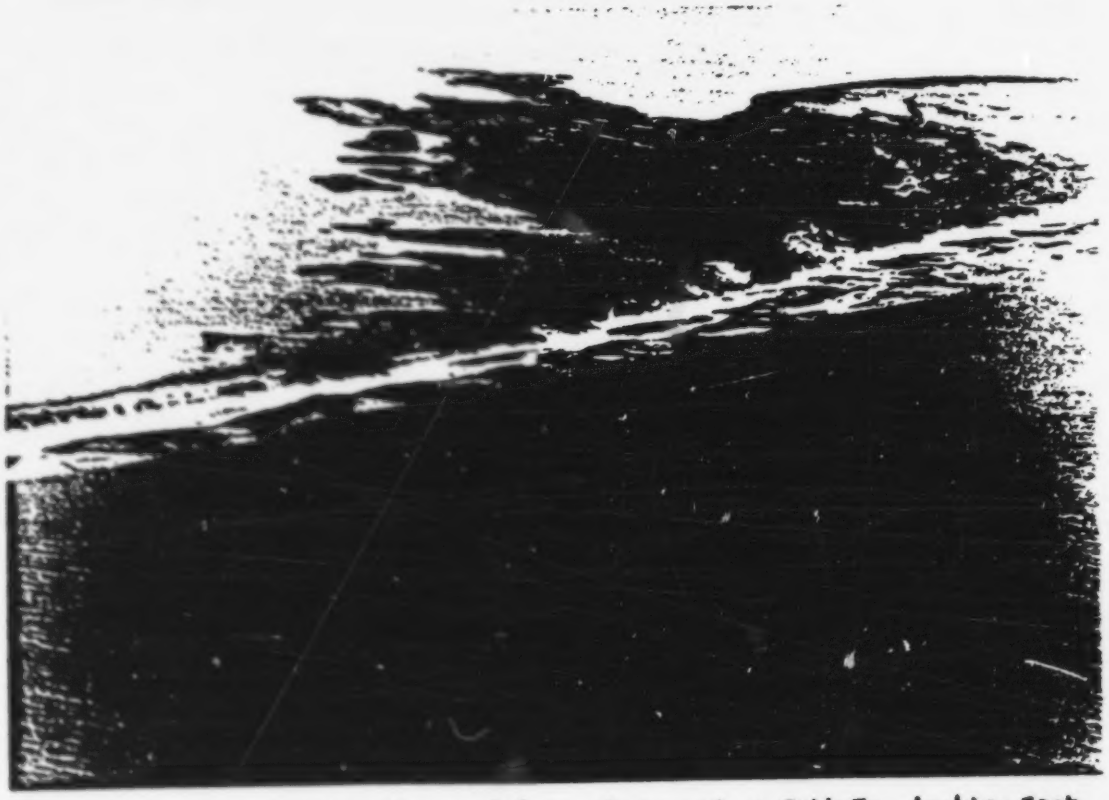
Kor, P., 1976. Brief Geomorphology and Geology of Lake of the Woods Provincial Park. Ont. Min. Nat. Res., Division of Parks, Northwestern Region, Environmental Planning Series, 36 p.



Areas recommended for inclusion within a protective park status. Offshore reserves should be determined in a Master Planning process. Also to be determined are administrative boundaries around the mainland reserve.

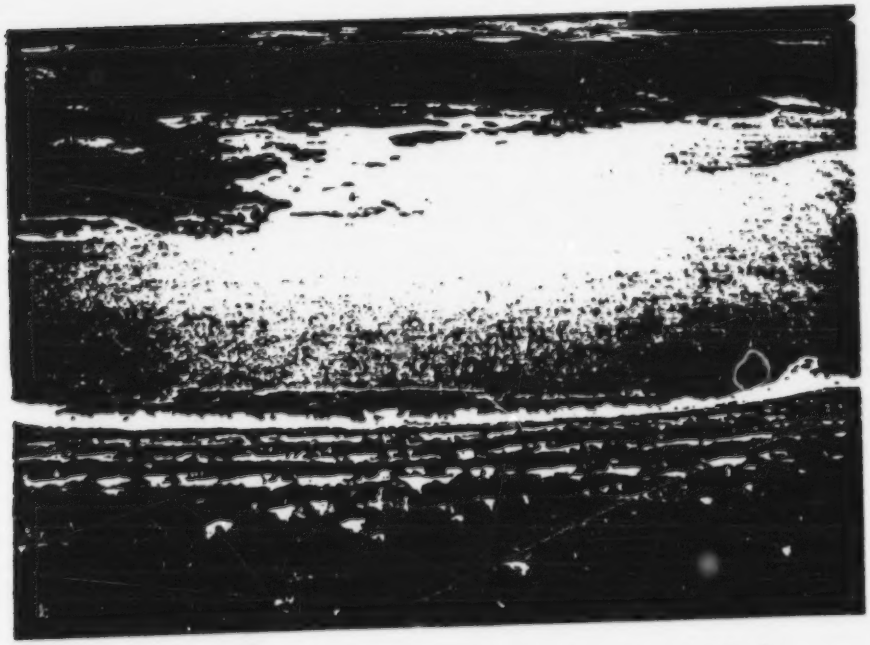


11 Sept. 1980. aerial view looking west, of NE end of Sable Island, showing low, wide sandbar joining vegetated island with Quick Is. (extreme lower right portion of photo). Extremely low water levels.



11 Sept. 1980. recurved spit morphology at SW end of Sable Is., looking East. note emergence of wide beach and vegetated lowlands on lagoon side; also blowouts.

August 1979. Active wave erosion of wet mainland bog area; note "storm berm" of organic debris.
approx. UTM 998160



June 1978. Wave action on Sable Island, with relatively quiet lagoon waters. Note bedrock mainland and minor offshore sand beaches. Near NE end of island.
approx. UTM 813210 (centre of island in photo)

August 1978.

lakeshore bluff cut into active dune. high water level.

approx. UTM 772162

August 1978.

lakeshore active dune area at complex spit end of the islands. highest portion on the islands. note helicopter in distant centre.

approx. UTM 771161

August 1979.

narrow portion of Sable Is. lagoon on left, Lake of the Woods on right, looking SW. fairly high water levels.

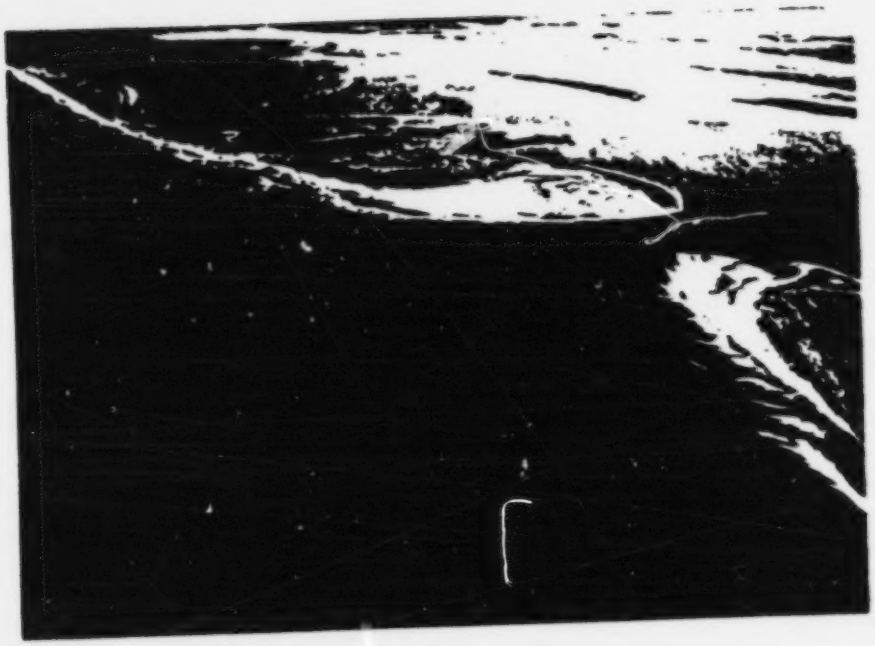


Photo of Sable Island and Pine Island, 11 Sept.1980. Note large areas of exposed sand at end of islands and on lakeward side, the result of a lowering of lake level by about 1-1.5 m.

Map of Lake of the Woods area from S.J. Dawson's (1859) "Report on the Exploration of the Country between Lake Superior and the Red River Settlement". Note Sable Island (not named on map) is shown as two main islands.

POOR
QUALITY
ORIGINAL